

We should also send the encoding and decoding logic with the encoded bit string.

∴ We send the ascii codes of each character and their corresponding encoded ~~bit~~ Huffman bit values together.

$$\begin{aligned}\therefore \text{Bits needed for ascii} &= 6 \text{ characters} \times 8 \\ &= 48\end{aligned}$$

$$\begin{aligned}\text{Also, the binary keys} &= \text{no. of bits in } (000, \\ &\quad 001, 111, 10, 01, 110) \\ &= 16\end{aligned}$$

$$\begin{aligned}\therefore \text{Total bits which would be sent for} \\ \text{future reference} &= 48 + 16 = 64\end{aligned}$$

$$\begin{aligned}\therefore \text{Total bits with string} &= 64 + 38 \\ &= \underline{\underline{102}}\end{aligned}$$